

UNCLASSIFIED

AD NUMBER
AD343718
CLASSIFICATION CHANGES
TO: <b>unclassified</b>
FROM: <b>confidential</b>
LIMITATION CHANGES
TO: <b>Approved for public release, distribution unlimited</b>
FROM: <b>Distribution authorized to U.S. Gov't. agencies and their contractors; Administrative/Operational Use; 30 NOV 1962. Other requests shall be referred to Department of the Army, Attn: Public Affairs Office, Washington, DC 20310.</b>
AUTHORITY
<b>30 Nov 1964, DoDD 5200.10; OACS ltr, 13 Sep 1973</b>

THIS PAGE IS UNCLASSIFIED

**CONFIDENTIAL**

**AD 343718**

**DEFENSE DOCUMENTATION CENTER**

**FOR**

**SCIENTIFIC AND TECHNICAL INFORMATION**

**CAMERON STATION, ALEXANDRIA, VIRGINIA**



**CONFIDENTIAL**

NOTICE: When government or other drawings, specifications or other data are used for any purpose other than in connection with a definitely related government procurement operation, the U. S. Government thereby incurs no responsibility, nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use or sell any patented invention that may in any way be related thereto.

NOTICE:

THIS DOCUMENT CONTAINS INFORMATION  
AFFECTING THE NATIONAL DEFENSE OF  
THE UNITED STATES WITHIN THE MEAN-  
ING OF THE ESPIONAGE LAWS, TITLE 18,  
U.S.C., SECTIONS 793 and 794. THE  
TRANSMISSION OR THE REVELATION OF  
ITS CONTENTS IN ANY MANNER TO AN  
UNAUTHORIZED PERSON IS PROHIBITED  
BY LAW.

Regraded CONFIDENTIAL,  
by authority of Maj Gen  
E. L. Rowny, by 1st Lt  
JJ Swift Security  
Officer, 4 March 1963

**CONFIDENTIAL**

30 Nov 1962

U. S. AIR FORCE, APO 143, San Francisco, California

⑤-19210

①

4371

COPY

⑨ MONTHLY TEST REPORT, NUMBER 1,

⑦ Employment of OV-1 (Mohawk) Aircraft in Support of Counter-Insurgency Operations, 16 October - 15 November 1962

[C]

1. (C) General:

a. References:

by

(1) Letter, Hq USMAC-V, Subj: Test Plan, AO-1 (Mohawk) Aircraft for Province/Sector Surveillance in Support of Counter-Insurgency Operations (C), dated 29 September 1962.

(2) Message, Hq USMAC-V, J3 4213, Subj: Operational Employment of the 23d Special Warfare Aviation Detachment (Surveillance).

b. Test Concept:

(1) The field tests are being conducted in SVN to support actual counter-insurgency operations as specified by COMUSMAC-V. During the period covered by this report the test unit has been in support of II RVN Corps. II Corps has ordered the test unit to provide direct support to the following units in the priority listed:

(a) 9th Division, Qui Nhon.

(b) 47th Regiment, Tuy Hoa.

(c) Railway Security Agency, II Zone.

(2) Rules of Employment for the unit are at Inclosure 1.

(3) The supported units are authorized to request any type of mission which can be accomplished within the unit's Rules of Employment and which is consistent with the test objectives. The sequence in which various type missions are performed is determined by the II Corps Advisor, after weighing the relative value of requests from the supported units.

2. (C) Status of Test Unit:

a. Organization: The test unit's personnel strength and organization are shown in the chart below:

Copy Nr \_\_\_\_ of \_\_\_\_

**CONFIDENTIAL**

Page Nr 1 of 12

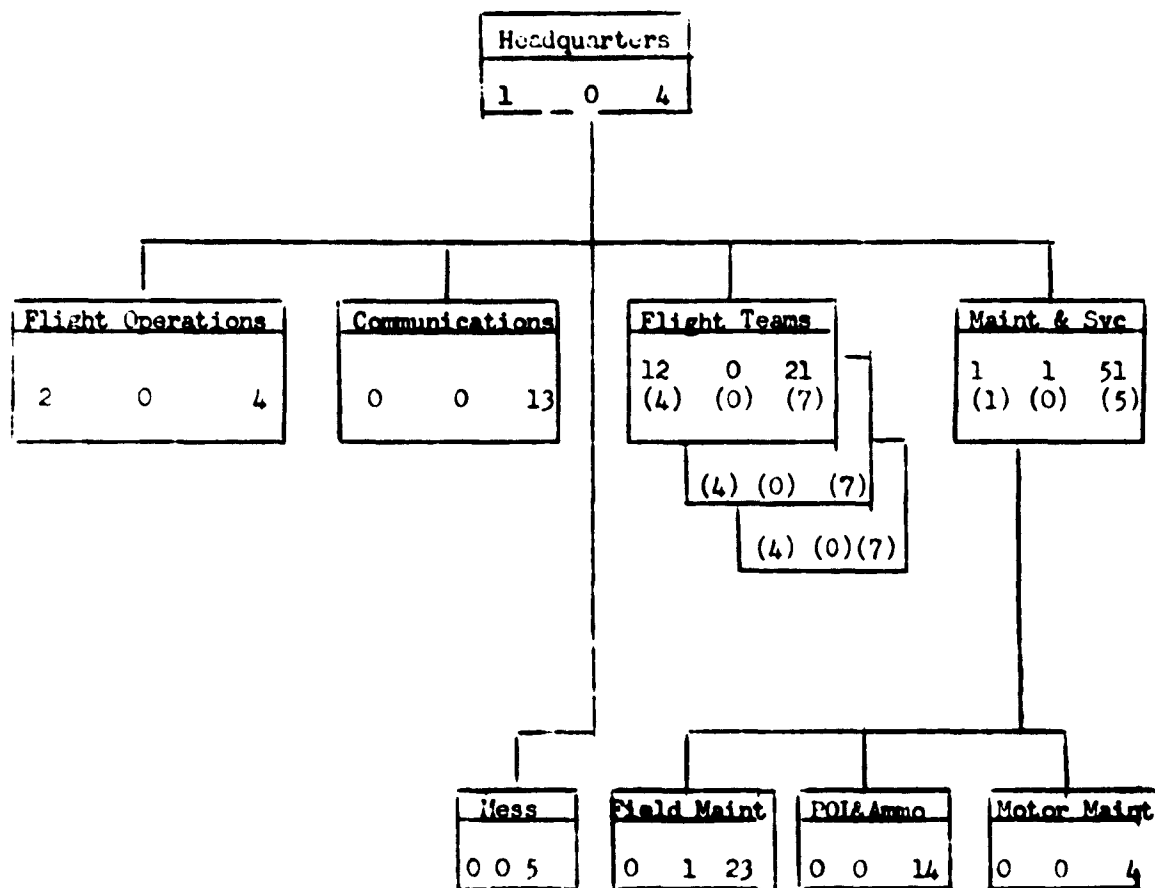
6900

**CONFIDENTIAL**

30 November 1962

MONTHLY TEST REPORT NUMBER 1, ACTIV, APO 143

23RD SPEC WAR AVN DET (SURV)



TOTALS

Off. . . . . 16  
WO . . . . . 1  
EM . . . . . 93

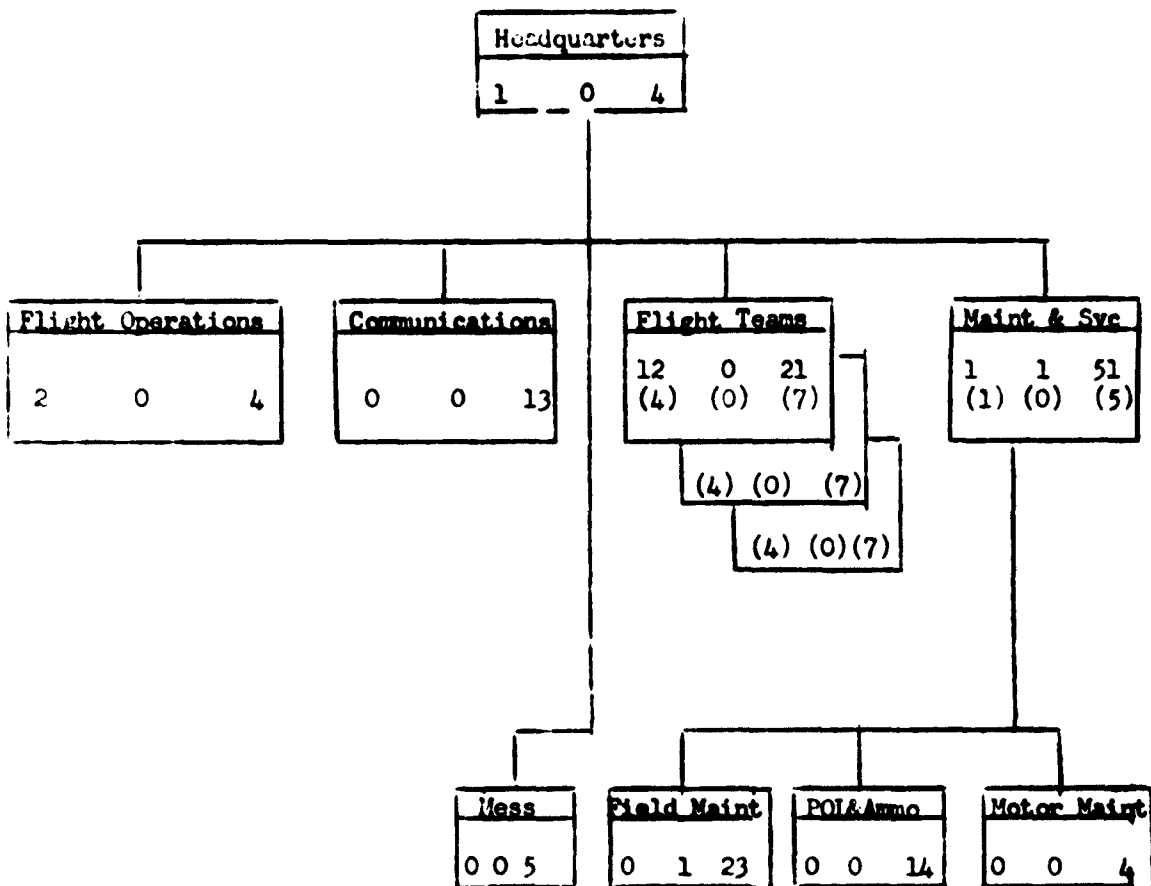
**CONFIDENTIAL**

**CONFIDENTIAL**

30 November 1962

MONTHLY TEST REPORT NUMBER 1, ACTIV, APO 143

23RD SPEC WAR AVN DET (SURV)



TOTALS

Off. . . . . 16  
WO . . . . . 1  
EM . . . . . 93

**CONFIDENTIAL**

**CONFIDENTIAL**

30 November 1962

MONTHLY TEST REPORT NUMBER 1, ACTIV; APO 143-

b. Major items of equipment:

(1) Aircraft: Six JOV-10 Mohawk aircraft configured for visual and photographic surveillance and for the delivery of conventional aircraft ordnance.

(2) Armament: The unit maintains basic loads of AFRO 70 rocket packs and .50 caliber ammunition for the North American 100 round machine gun pods.

(3) Communications: Each aircraft is equipped with a UHF 1750 channel transmitter and receiver, FM 280 channel transmitter and receiver, and VHF 5 channel transmitter and receiver.

(4) Photographic: Each aircraft has a KS-61 camera system installed. Either crew member, through a remote control, can adjust the KS-30 camera to take vertical and oblique photos of 15° or 30° right or left. A TRQ-7 photo processing van gives the unit the capability to develop and print photographs.

c. Outline History of the Test Unit:

(1) The 23d Special Warfare Aviation Detachment (Surveillance) was activated on 24 July 1962 at Fort Rucker, Alabama, and deployed to South-East Asia from COMUS on 16 August 1962. The unit closed at Nha Trang, South Vietnam, on 20 September 1962, and was placed under the command of CG, USA Support Group, Vietnam for administration, with operational control retained by CG, USMACV.

(2) The period from 20 September thru 14 October was devoted to organization of the base field, establishment of living quarters and maintenance facilities, and training directed toward environmental orientation and area familiarization.

(3) On 15 October, Hq USMACV declared the unit operational and placed the unit in support of II RVN Corps. Six RVN observers were attached to the unit by CG II Corps and joined during the period 16 - 19 October. The observers are RVN officers, non-pilot rated, whose English language capability varies from fair to poor. The observers have been integrated into the unit and live and eat as well as work with the flight teams to which they are assigned.

(4) Hostile attacks against the OV-1 to date has consisted of small arms fires, usually from concealed positions in wooded areas. The need for Mohawk defensive fires by an area rather than a point weapon sponsored a MACV request for rocket armament in order to provide protection for repeated visual observations and photographic passes at low level over the enemy position. Specific tasks of this type are called for in detection of railway sabotage or ambush, inspection of helicopter landing sites and

**CONFIDENTIAL**

Page Nr 3 of 12

**CONFIDENTIAL**

30 November 1962

MONTHLY REPORT NUMBER 100 745

verification of Viet Cong concentrations. Rocket fire is equally discriminatory, and through its effectiveness, would appear to inhibit enemy attacks by ground fire. COMUSMACV's request for rocket armament has been disapproved by CINCPAC.

3. (C) Method of Deployment:

a. Communications:

(1) Primary communications between the headquarters of the test unit and the supported units are as follows:

(a) Headquarters, II RVN Corps - Telephone via the trap-scatter system to the Pleiku switchboard (LBIH).

(b) Headquarters, 9th Division - Telephone via the trap-scatter system to the Qui Nhon switchboard (LBIH).

(c) Headquarters, 47th Regiment - Point to point radio teletype using the two AN/GRC 46 systems organic to the test unit.

(d) Headquarters, Railway Security Agency, II Zone - Telephone via the Nha Trang switchboard (GOLDFINCH), and FM radio.

(2) Liaison:

(a) The test unit maintains a full-time liaison officer with headquarters, 9th Division at Qui Nhon. The liaison officer has jeep mounted VAC-24 (ULF) and VAC-18 (FM) radios for air/ground communication with the Division.

(b) The Railway Security Agency Commander and/or Advisor personally visit the test unit operations office daily to coordinate railway security operations.

(c) Two communications specialists from the test unit who operate a GRC-46 at the 47th Regiment at Tuy Hoa also perform limited liaison functions. Other liaison requirements are handled by periodic visits of unit officers to Tuy Hoa.

(3) Air/Ground Communications:

(a) Using the AN/C-44 the aircraft crew can enter all RVN and US Advisor FM nets. Contact with railway stations and trains is maintained with FM equipment.

(b) ULF or VHF is used for air traffic control purposes and to contact PAGODA Control.

**CONFIDENTIAL**



**CONFIDENTIAL**

30 November 1962

MONTHLY REPORT NUMBER 1

b. Mission request channels:

Mission requests are submitted directly from the supported unit to the operations office of the test unit. Mission priorities are also established by the supported units. There is no approval or disapproval procedure except within the supported unit headquarters.

c. Relationship with the Tactical Air Control System:

(1) The test unit provides ASOC IIA, Nha Trang, with the following information daily for airspace coordination purposes:

- (a) Number and type aircraft flying each mission.
- (b) Take-off time.
- (c) Estimated time of return.
- (d) Area of operations.

(2) ASOC IIA is also informed immediately of any activity detected which is a hazard to aircraft, e.g., location from which hostile ground fire is observed.

(3) Whenever possible, radio contact is established and maintained with PACOM Control. Frequently, at tactical altitudes above the coastal limit, this contact cannot be established.

d. Diversion of aircraft in the air to a higher priority mission: aircraft may be (and frequently are) diverted or assigned additional tasks by either the supported unit or by test unit headquarters. This is easily accomplished through FM air/ground sets.

4. (C) Statistical Mission Summary:

a. Although the test unit was declared operational on 15 October 1962, full scale operations did not begin until 28 October for the following reasons:

(1) AMVN observers did not join the unit until 19 October and their initial ground training was not completed until 21 October.

(2) One-time engine-inspection requirements grounded all aircraft on 20, 21 and 22 October.

(3) Severe weather, which signified the arrival of the north-east monsoon season, restricted flying during the week prior to 28 October. Therefore, the statistical data listed are shown in two columns: 16 - 31 October and 1 - 15 November; the latter is the more representative period.

**CONFIDENTIAL**

Page Nr 5 of 12

**CONFIDENTIAL**

November 1962

MONTHLY REPORT NUMBER 1, ACTIV, APO 143

b. Mission Statistics:

	<u>16 - 31 Oct</u>	<u>1 - 15 Nov</u>	<u>Total</u>
Number of tactical missions flown -	21	66	87
Number missions on which photos taken -	13	31	44
Number of artillery adjustments -	0	3	3
Number railway surveillance sweeps -	5	26	31
Night surveillance missions -	0	3	3
Number of flare drop missions -	0	2	2
Number of photographic prints delivered -	1200	4500	5700
Average daily availability of <u>assigned</u> acft -	3.2	4.1	
Average daily flight hours by unit -	5.5	14.8	
Monthly rate, hours per acft -	27.5	74	
Number of times hostile ground fire observed by aircraft crew -	0	3	3
Number of times defensive fire delivered -	0	3	3
Number of times hostile ground fire on aircraft reported by ground units in addition to above -	0	2	2
Number of times aircraft hit by ground fire -	0	1	1

5. (C) Analysis of Test Results: The best, and most valid, comments on the effectiveness of the test unit must come from the supported units. The unit is normally not engaged in separate actions which can be isolated from the actions of other tactical forces in the test area. Surveillance aviation is but one of several tools which the ground commander must integrate into his operations to accomplish the total counter-insurgency mission. This with any product, success is ultimately measured in terms of customer satisfaction - in this case the commanders of the supported units. This interim report contains only one report from a customer, the Railway Security Advisor, H. H. Mc. However, all supported Unit Advisers have been interviewed several times by ACTIV project personnel. The sense of these interviews will be noted during the discussion of specific test objectives in the following sub-paragraphs.

a. Objective 1: To determine the results obtained by providing continuous surveillance to a limited area, i. e., reduction in VC incidents, restrictions to VC movements, increase of RVNAF response and effectiveness.

(1) Comments:

(a) Sufficient comprehensive factual evidence are not available yet to fully evaluate this objective. The test unit provides direct support to two units whose sectors include the provinces of Binh Dinh and Phu Yen. Their combined total area is over 6,000 square miles. In addition, daily surveillance is performed of a railway system over 300 miles in length. Obviously, it is not feasible to provide continuous surveillance over this entire area, nor is it required. Rather, the supported units require surveillance of specific areas for particular intelligence purposes.

**CONFIDENTIAL**

30 November 1962

MONTHLY REPORT NUMBER 1, MONTH, APO 143

Direction of the surveillance effort is mandatory, and this direction must come from the supported units to insure integration in air surveillance with other operational elements. The summary of VC incidents in the test area for the month of November will provide the first indicators for the provinces as a whole.

(b) A comparison of railway security incidents in II Zone during the one-month period of Mohawk surveillance with the incidents during the preceding one-month period is shown at Inclosure 2. These statistics show that during the period of Mohawk surveillance the incidents were cut in half—from 14 to seven. Further, the total damage inflicted decreased significantly. No train has been looted during the period of Mohawk surveillance.

(c) Perhaps, the greatest result of railway surveillance has been the boost in the morale of the railway employees. During the daily sweeps along the track, each station and train is contacted by F. 101s. Reports are made of track conditions and the location of trains. Frequently, trains are escorted through critical areas where VC incidents are likely to occur. As a result a great attachment has developed between railway personnel and the Mohawks. Mohawk crews report that during flights over trains crew members and passengers alike lean out of windows and wave.

(d) Twice Mohawks have scrambled at night to drop illumination flares at the location of train incidents. In one case two Mark VI flares were dropped and the train safely passed through the trouble spot; on the other occasion a low cloud layer prevented visual contact with the train and flares were not dropped.

(2) Tentative Finding, Objective 1: That sufficient information is not yet available to analyze the total result of aerial surveillance in the test provinces of Binh Dinh and Phu Yen.

b. Objective 2: To determine the suitability and feasibility of OV-1 aircraft for tactical area surveillance.

(1) Comments:

(a) The OV-1 Mohawk was designed as a surveillance aircraft. Significant characteristics of the aircraft are listed below. All of the characteristics listed have been used or tested during the period except for the armor protection and ejection seat system.

1 Mission speed range from less than 100 knots to over 200 knots.

2 Excellent visibility forward, to the flanks, and downward.

30 November 1962

MONTHLY REPORT NUMBER 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

3 Built in day/night camera system capable of vertical or oblique photos with clear with camera mode controlled remotely by the aircraft crew.

4 Over four hours endurance with the external tanks habitually carried in operational missions.

5 Twin engine reliability.

6 Designed for ease of maintenance under field conditions.

7 Ability to carry up to 4,000 pounds of conventional ordnance or other external stores, including illuminating flares.

8 Short field capability.

9 Excellent maneuverability and short turning radius facilitating low level operations in mountain valleys and other compartmentalized terrain.

10 Armor protection for the crew.

11 Side by side seating for ease of communication between crew members.

12 UHF, VHF and FM radio communication systems.

13 FM landing capability.

14 Zero altitude ejection seat systems.

(b) On 13 November a Mohawk flying 100 feet above the ground was hit twice by small arms fire estimated to be .30 caliber. One round, fired vertically, passed through the right wing. The second bullet entered the aircraft from the front and passed into the fuselage at a point underneath the co-pilot's seat, broke into three pieces, and cut several hydraulic lines and a wiring cable. The aircraft completed the mission, was repaired and in commission the following day.

(c) In the configuration used in the majority of night missions the aircraft crew can communicate with any US, USF or friendly aircraft or any FM ground radio in either English or Vietnamese, observe visually, adjust artillery fire, take 240 frames of vertical or oblique photography, provide observation escort for ground or air columns, have an FM radio, protect themselves with .50 caliber defensive fires, and later for a sortie endurance of over four hours. This versatility can be further extended by configurations for special operations such as flare drops, or night photography (104 frames). Although not authorized at

**CONFIDENTIAL**

30 November 1962

this time and place, the aircraft is capable of accomplishing all of the above and in addition carrying a wide variety of conventional armaments up to a total of 4,000 pounds of external stores.

(d) Several relatively inexpensive modifications would further increase the usefulness of the aircraft in counter-insurgency operations. These include:

- 1 Installation of a drop port for message drop.
- 2 Installation of a loud speaker system to be carried in a resupply pod.
- 3 Installation of a strike camera in the nose of the aircraft.
- 4 Installation of pods for leaflet drop.

(2) Tentative Findings, Objective 2:

(a) That it is feasible to use the OV-1 aircraft for tactical area surveillance.

(b) That the OV-1 has proven suitable for tactical area surveillance due to its extreme versatility and performance optimized for support of ground operations.

(c) That the aircraft carrier and should be modified to include add-on features to further extend its versatility.

c. Objective 3: To determine the nature of insurgent activities which can be detected by visual and photographic means.

(1) Comments:

(a) Spot report statistics for the period have not yet been summarized. However, all of the following activities have been detected by visual surveillance on a number of occasions: personnel (VC), camp fires, smoke columns, caves, camouflaged huts, structures, domestic animals (VC-owned), sampans, rice fields (VC-controlled), obstacles (VC-installed), and trails.

(b) Extensive photographic surveillance has been performed for the 9th Division and 47th Regiment. Photographic targets selected

**CONFIDENTIAL**

30 November 1962

MONTHLY REPORT NUMBER 1, LPO 143

by the supported units have included suspected VC build-up areas and areas for terrain studies, and the selection of helicopter landing zones and the approaches thereto. Photos are normally delivered within 24 hours. If the mission is urgent same-day service is given; that is, request received, mission flown, and the prints delivered on the same day. Trained imagery interpreters are required to obtain the full read-out from photography. The 9th Division has two trained interpreters during most of the period, but the 47th Regiment had none. Both units have expressed extreme satisfaction with the ability of photography to provide useful intelligence, the quality of the prints, and the responsive service provided.

(2) Tentative Finding, Objective 3: That both visual and photographic surveillance are effective in counter-insurgency operations in RVN and a wide range of useful intelligence can be obtained by these means.

d. Objective 4: To determine the adequacy and validity of current US Army doctrine, procedures, tactics and techniques for employment of OV-1 type aircraft in tactical area surveillance role and to further develop doctrine, procedures, tactics and techniques for counter-insurgency operations.

(1) Comment:

(a) A thorough analysis of this objective requires extensive treatment. Only one major point will be discussed in this report: employment of the unit in accordance with the Army doctrine of direct support. Essential elements of this doctrine are:

1. The ground commander must control and integrate all elements of combat power which are used to accomplish this mission.

2. When an aviation unit is placed in direct support, the command decisions as to when, where and how the aviation support will be used is solely that of the supported unit commander.

(b) Application of the direct support doctrine by the test unit is as follows:

1. Requests are received and acknowledged by one call directly from the requesting unit to the test.

2. Aircraft are allocated to missions by the test unit in accordance with the established priorities of the II Corps Commander.

3. The requesting unit is notified that the mission is confirmed. Normally, this is done during the initial request call.

30 November 1962

4. Frequently, the aircraft crew is briefed and/or debriefed at the headquarters of the supported unit.

2. While the mission is being flown the aircraft may be at any time be diverted to any other mission desired by the supported unit commander.

(c) The governing philosophy of this doctrine is that the ground commander charged with the over-all mission is the only person with the full perspective to properly employ the aircraft. All supported unit commanders have expressed extreme satisfaction with the responsiveness and competence of the test unit in the direct support role.

(2) Tentative Findings, Objective 4: That Army doctrine applicable to direct support aviation is valid for the range of activities described in this report.

e. Objective 5: To determine the adequacy of equipment and personnel to support tactical area operations.

(1) Comment: Operations so far have indicated the desirability of minor changes in both personnel and equipment. A comprehensive and detailed report will be included in the final report.

(2) Tentative Finding, Objective 5: That minor inadequacies in personnel and equipment do exist.

f. Objective 6: To recommend necessary changes to the TOE (Modified), training and technical literature released on the results of the operational evaluation.

(1) Comment: These recommendations must await the conclusion of the test.

(2) Tentative Findings, Objective 6: None.

g. Objective 7: To test and evaluate the 23d Special Warfare Aviation Detachment (Provisional) in tactical area surveillance operations under typical conditions encountered in counter-insurgency operations.

(1) Comment: As written, this is the test purpose rather than a specific test objective.

(2) Tentative Finding, Objective 7: None.

h. Objective 8: To determine logistical problems.

**CONFIDENTIAL**

30 November 1962

MONTHLY REPORT NUMBER 1

b. Mission request channels:

Mission requests are submitted directly from the supported unit to the operations office of the test unit. Mission priorities are also established by the supported units. There is no approval or disapproval procedure except within the supported unit headquarters.

c. Relationship with the Tactical Air Control System:

(1) The test unit provides ASOC IIA, Nha Trang, with the following information daily for airspace coordination purposes:

- (a) Number and type aircraft flying each mission.
- (b) Take-off time.
- (c) Estimated time of return.
- (d) Area of operations.

(2) ASOC IIA is also informed immediately of any activity detected which is a hazard to aircraft, e.g., location from which hostile ground fire is observed.

(3) Whenever possible, radio contact is established and maintained with PACOM Control. Frequently, at tactical altitudes above the coastal limit, this contact cannot be established.

d. Diversion of aircraft in the air to a higher priority mission: aircraft may be (and frequently are) diverted or assigned additional tasks by either the supported unit or by test unit headquarters. This is easily accomplished through FM air/ground sets.

4. (C) Statistical Mission Summary:

a. Although the test unit was declared operational on 15 October 1962, full scale operations did not begin until 28 October for the following reasons:

(1) A-1JN observers did not join the unit until 19 October and their initial ground training was not completed until 21 October.

(2) One-time engine-inspection requirements grounded all aircraft on 20, 21 and 22 October.

(3) Severe weather, which signified the arrival of the north-east monsoon season, restricted flying during the week prior to 28 October. Therefore, the statistical data listed are shown in two columns: 16 - 31 October and 1 - 15 November; the latter is the more representative period.

**CONFIDENTIAL**



**CONFIDENTIAL**

30 November 1962

MONTHLY REPORT NUMBER 1, ACTIV, RPO 143

b. Mission Statistics:

	<u>16 - 31 Oct</u>	<u>1 - 15 Nov</u>	<u>Total</u>
Number of tactical missions flown -	21	66	87
Number missions on which photos taken -	13	31	44
Number of artillery adjustments -	0	3	3
Number railway surveillance sweeps -	5	26	31
Night surveillance missions -	0	3	3
Number of flare drop missions -	0	2	2
Number of photographic prints delivered -	1200	4500	5700
Average daily availability of <u>assigned</u> acft -	3.2	4.1	
Average daily flight hours by unit -	5.5	14.8	
Monthly rate, hours per acft -	27.5	74	
Number of times hostile ground fire observed by aircraft crew -	0	3	3
Number of times defensive fire delivered -	0	3	3
Number of times hostile ground fire on aircraft reported by ground units in addition to above -	0	2	2
Number of times aircraft hit by ground fire -	0	1	1

5. (c) Analysis of Test Results: The best, and most valid, comments on the effectiveness of the test unit must come from the supported units. The unit is normally not engaged in separate actions which can be isolated from the actions of other tactical forces in the test area. Surveillance aviation is but one of several tools which the ground commander must integrate into his operations to accomplish the total counter-insurgency mission. As with any product, success is ultimately measured in terms of customer satisfaction. In this case the commanders of the supported units. This interim report contains only one report from a customer, the Railway Security Advisor, H. H. H. However, all supported Unit Advisers have been interviewed several times by ACTIV project personnel. The sense of these interviews will be noted during the discussion of specific test objectives in the following sub-paragraphs.

a. Objective 1: To determine the results obtained by providing continuous surveillance to a limited area, i. e., reduction in VC incidents, restrictions to VC movements, increase of RVNAF response and effectiveness.

(1) Comments:

(a) Sufficient comprehensive factual evidence are not available yet to fully evaluate this objective. The test unit provides direct support to two units whose sectors include the provinces of Binh Dinh and Phu Yen. Their combined total area is over 6,000 square miles. In addition, daily surveillance is performed of a railway system over 300 miles in length. Obviously, it is not feasible to provide continuous surveillance over this entire area, nor is it required. Rather, the supported units require surveillance of specific areas for particular intelligence purposes.

**CONFIDENTIAL**

30 November 1962

MONTHLY REPORT NUMBER 1, MOHAWK, APO 143

Direction of the surveillance effort is mandatory, and this direction must come from the supported units to insure integration in air surveillance with other operational elements. The summary of VC incidents in the test area for the month of November will provide the first indicators for the provinces as a whole.

(b) A comparison of railway security incidents in II Zone during the one-month period of Mohawk surveillance with the incidents during the preceding one-month period is shown at Inclosure 2. These statistics show that during the period of Mohawk surveillance the incidents were cut in half—from 14 to seven. Further, the total damage inflicted decreased significantly. No train has been looted during the period of Mohawk surveillance.

(c) Perhaps, the greatest result of railway surveillance has been the boost in the morale of the railway employees. During the daily sweeps along the track, each station and train is contacted by F. radi. Reports are made of track conditions and the location of trains. Frequently, trains are escorted through critical areas where VC incidents are likely to occur. As a result a great attachment has developed between railway personnel and the Mohawks. Mohawk crews report that during flights over trains crew members and passengers alike lean out of windows and wave.

(d) Twice Mohawks have scrambled at night to drop illumination flares at the location of train incidents. In one case two Mark VI flares were dropped and the train safely passed through the trouble spot; on the other occasion a low cloud layer prevented visual contact with the train and flares were not dropped.

(2) Tentative Finding, Objective 1: That sufficient information is not yet available to analyze the total result of aerial surveillance in the test provinces of Binh Dinh and Phu Yen.

b. Objective 2: To determine the suitability and feasibility of OV-1 aircraft for tactical area surveillance.

(1) Comments:

(a) The OV-1 Mohawk was designed as a surveillance aircraft. Significant characteristics of the aircraft are listed below. All of the characteristics listed have been used or tested during the period except for the armor protection and ejection seat system.

1 Mission speed range from less than 100 knots to over 200 knots.

2 Excellent visibility forward, to the flanks, and downward.

30 November 1962

3 Built in day/night camera system capable of vertical or oblique photos with clear with camera mode controlled reactively by the aircraft crew.

4 Over four hours endurance with the external tanks habitually carried on operational missions.

5 Twin engine reliability.

6 Designed for ease of maintenance under field conditions.

7 Ability to carry up to 4,000 pounds of conventional armament or other external stores, including illuminating flares.

8 Short field capability.

9 Excellent maneuverability and short turning radius facilitating low level operations in mountain valleys and other compartmentalized terrain.

10 Armor protection for the crew.

11 Side by side seating for ease of communication between crew members.

12 UHF, VHF and FM radio communication systems.

13 FM landing capability.

14 Zero altitude ejection seat systems.

(b) On 13 November a Hawk flying 100 feet above the ground was hit twice by small arms fire estimated to be .30 caliber. One round, fired vertically, passed through the right wing. The second bullet entered the aircraft from the front and passed into the fuselage at a joint underneath the co-pilot's seat, broke into three pieces, and cut several hydraulic lines and a wiring cable. The aircraft completed the mission, was repaired and in commission the following day.

(c) In the configuration used in the majority of daylight missions the aircraft crew can communicate with any USA, USAF or VNAF aircraft or any FM ground radio in either English or Vietnamese, observe visually, adjust artillery fire, take 240 frames of vertical or oblique photographs, provide observation escort for ground or air columns, land on any FM radio, protect themselves with .50 caliber defensive fires, and loiter for a sortie endurance of over four hours. This versatility can be further extended by configurations for special operations such as flare drop or night photography (104 frames). Although not authorized at

CONFIDENTIAL

**CONFIDENTIAL**

30 November 1962

this time and place, the aircraft is capable of accomplishing all of the above and in addition carrying a wide variety of conventional armaments up to a total of 4,000 pounds of external stores.

(d) Several relatively inexpensive modifications would further increase the usefulness of the aircraft in counter-insurgency operations. These include:

- 1 Installation of a drop port for message drop.
- 2 Installation of a loud speaker system to be carried in a resupply pod.
- 3 Installation of a strike camera in the nose of the aircraft.
- 4 Installation of pods for leaflet drop.

(2) Tentative Findings, Objective 2:

(a) That it is feasible to use the OV-1 aircraft for tactical area surveillance.

(b) That the OV-1 has proven suitable for tactical area surveillance due to its extreme versatility and performance optimized for support of ground operations.

(c) That the aircraft carrier and should be modified to include add-on features to further extend its versatility.

c. Objective 3: To determine the nature of insurgent activities which can be detected by visual and photographic means.

(1) Comment:

(a) Spot report statistics for the period have not yet been summarized. However, all of the following activities have been detected by visual surveillance on a number of occasions: personnel (VC), camp fires, smoke columns, caves, camouflaged huts, structures, domestic animals (VC-owned), sampans, rice fields (VC-controlled), obstacles (VC-installed), and trails.

(b) Extensive photographic surveillance has been performed for the 9th Division and 47th Regiment. Photographic targets selected

**CONFIDENTIAL**

30 November 1962

MONTHLY REPORT NUMBER 1, APO 143

by the supported units have included suspected VC build-up areas and areas for terrain studies, and the selection of helicopter landing zones and the approaches thereto. Photos are normally delivered within 24 hours. If the mission is urgent same-day service is given; that is, request received, mission flown, and the prints delivered on the same day. Trained imagery interpreters are required to obtain the full read-out from photography. The 9th Division had two trained interpreters during most of the period, but the 47th Regiment had none. Both units have expressed extreme satisfaction with the ability of photography to provide useful intelligence, the quality of the prints, and the responsive service provided.

(2) Tentative Finding, Objective 3: That both visual and photographic surveillance are effective in counter-insurgency operations in SVN and a wide range of useful intelligence can be obtained by these means.

4. Objective 4: To determine the adequacy and validity of current US Army doctrine, procedures, tactics and techniques for employment of CV-1 type aircraft in a tactical area surveillance role and to further develop doctrine, procedures, tactics and techniques for counter-insurgency type operations.

(1) Comment:

(a) A thorough analysis of this objective requires extensive treatment. Only one major point will be discussed in this report: employment of the unit in accordance with the Army doctrine of direct support. Essential elements of this doctrine are:

1. The ground commander must control and integrate all elements of combat power which are used to accomplish this mission.

2. When an aviation unit is placed in direct support, the command decision as to when, where and how the aviation support will be used is solely that of the supported unit commander.

(b) Application of the direct support doctrine by the test unit is as follows:

1. Requests are received and acknowledged by one call directly from the requesting unit to the test.

2. Aircraft are allocated to missions by the test unit in accordance with the established priorities of the II Corps Commander.

3. The requesting unit is notified that the mission is confirmed. Normally, this is done during the initial request call.

30 November 1962

4. Frequently, the aircraft crew is briefed and/or debriefed at the headquarters of the supported unit.

5. While the mission is being flown the aircraft may be at any time be diverted to any other mission desired by the supported unit commander.

(c) The governing philosophy of this doctrine is that the ground commander charged with the over-all mission is the only person with the full perspective to properly employ the aircraft. All supported unit commanders have expressed extreme satisfaction with the responsiveness and competence of the test unit in the direct support role.

(2) Tentative Findings, Objective 4: That Army doctrine applicable to direct support aviation is valid for the range of activities described in this report.

e. Objective 5: To determine the adequacy of equipment and personnel to support tactical area operations.

(1) Comment: Operations so far have indicated the desirability of minor changes in both personnel and equipment. A comprehensive and detailed report will be included in the final report.

(2) Tentative Finding, Objective 5: That minor inadequacies in personnel and equipment do exist.

f. Objective 6: To recommend necessary changes to the TOE (Modified), training and technical literature released on the results of the operational evaluation.

(1) Comment: These recommendations must await the conclusion of the test.

(2) Tentative Findings, Objective 6: None.

g. Objective 7: To test and evaluate the 23d Special Warfare Aviation Detachment (Provisional) in tactical area surveillance operations under typical conditions encountered in counter-insurgency operations.

(1) Comment: As written, this is the test purpose rather than a specific test objective.

(2) Tentative Finding, Objective 7: None.

h. Objective 8: To determine logistical problems.

CONFIDENTIAL

**CONFIDENTIAL**

30 November 1962

MONTHLY REPORT NUMBER 1, ACTIV, APO 143

(1) Comments:

(a) During the last two weeks of the test period the average flying rate of all six assigned aircraft was 74 flight hours per month. This rate was maintained even though one aircraft was EDP throughout the period.

(b) A comprehensive report of logistical experience will be included in the final report. However, two logistical problems will be outlined here.

1. Four engine failures occurred during the period 19 September to 18 October. This, of course, is abnormal. The four engines have been shipped to the Lycoming plant for analysis, but the cause has not yet been determined. Three of these failures occurred during the period when TJ-15 oil was being used as a substitute for Mil7808. This may have contributed to the failures but substantive proof of this is lacking.

2. One aircraft has been EDP for over twenty days for two sun gear packing seals (five-cent parts). This stresses the point that a responsive aircraft parts supply system is vital to operational effectiveness.

(2) Tentative Finding, Objective 8: Deferred for collection of additional data.

*E. L. Romy*  
E. L. ROMY  
Brigadier General, USA  
Chief

**CONFIDENTIAL**

U. S. ARMY CONCEPT TEAM IN VIETNAM  
APO 143, U. S. Forces

15 October 1962

MEMO FOR RECORD:

The following information was read and explained to all officers of the 23d Special Warfare Aviation Det (Surv), including the two attached Naval aviators by Col Helmuth, ACTIV, this date.

1. Your unit has been deployed to South Vietnam in order to test and evaluate Department of the Army concepts for use of AO-1 Mohawk aircraft in tactical area surveillance in support of counter-insurgency operations. The initial phase of the test will consist of operational missions in direct support of ARVN II Corps.

2. Operational missions will be conducted within the following rules:

a. Aircraft will be marked with U. S. markings.

b. One member of the ARVN will be aboard each aircraft during the performance of tactical missions.

c. Aircraft normally will be armed with .50 caliber machine guns on all tactical missions. No other armament is authorized. Use of this armament is restricted to the defensive role and will be employed only when required to defend against hostile ground fire directed at the aircraft.

d. To preclude endangering the lives and property of friendly civilians, the following conditions must exist before fire is delivered against hostile ground targets.

(1) The target must be identified visually by the U. S. pilot as consisting of individuals or groups who fired at the AO-1 aircraft. Where time and circumstances permit, the U. S. pilot will, as an additional restrictive measure, obtain concurrence of the ARVN member that the target does not endanger friendly personnel.

(2) Target location must be such that it can be engaged with reasonable assurance that civilian lives are not endangered, i.e., fire originating from within a hamlet or village will frequently not permit engagement because of dispersion of the aircraft weapon's fires.

(3) Gun cameras will always be activated prior to engaging a hostile target.

(4) Whenever possible damage assessment photographs will be taken with the KA-30 camera.

3. The contents of this memo will be reemphasized at each pre-operation briefing.

Copy Nr\_\_of\_\_

Page 1 of 1



**CONFIDENTIAL**

Railway Security, II Zone (U)

Railway Sec Adv  
Studies & Analysis Br  
O&T Div, USASEC, MACG

Railway Sec Adv  
II Zone  
NHA TRANG

19 Nov 62

1. (KC) During the period 17 Sep 62 through 16 Oct 62 the following rail incidents occurred in the II zone, military railway security service (MRSS):

- a. (U) VC removed 1,100 meters of telegraph line between Bn 639/704 and Bn 627/704 plus 202 insulators during night of 19/20 Sep 62.
- b. (U) Train Nr 2334 was derailed by a mine at Br 884/885 on 20 Sep 62 at 1200 hours.
- c. (U) VC mined a bridge at Br 980/332 on 26 Sep 62 at approximately 2300 hours.
- d. (U) Train Nr 2345 was mined by the VC at BQ 865/946 at 0915 hours, 29 Sep 62.
- e. (U) Three armed VC stopped a trackwalker at 0830 hours, 29 Sep 62, at CP 023/921 and stole a railroad "Lug Wrench" and other items.
- f. (U) Train Nr 14/24 was derailed at BQ 975/780, by VC removal of rails, at 0255 hours, 1 Oct 62.
- g. (U) VC removed three pairs of rails night of 1/2 Oct 62, at BR 895/142.
- h. (U) VC mined bridge at BR 885/585 at 0330 hours, 2 Oct 62.
- i. (U) VC derailed and attached Wickham trolley by removing two pairs of rails at BQ 866/973 at 0430 hours 3 Oct 62.
- j. (U) VC mined a bridge at BS 905/134 night of 2/3 Oct 62.
- k. (U) Train Nr 2334 was derailed by VC mines at BR 868/937, at 1117 hours, 10 Oct 62.
- l. (U) VC mined train nr 17 at CQ 235/292 at 0810 hours, 12 Oct 62.
- m. (U) VC mined and attacked Wickham Trolley patrol at AN 778/190 at 1630 hours, 16 Oct 62.
- n. (U) VC removed 12 meters of rails at AN 746/158 on the afternoon of 16 Oct 62.

The total number of incidents during the above period were 14.

Copy Nr 1 of 3

**CONFIDENTIAL**

Page Nr 1 of 3

2. (KC) During the period covered in paragraph Nr 1 Operation Sea Swallow was in progress in PHU YEN province, the 9th Division was preparing for an operation in BINH DINH province that started 15 Oct 62, and an operation in BINH THUAN province ended on or about 10 Oct 62. Preceding the initiation of 9th Division Operations in BINH DINH province there was a marked increase in the number of VC actions against the railroad. Following termination of the operation in BINH THUAN province there was an attack on the Wickham Trolley patrol. VC actions against the railroad have been a continuing problem in PHU YEN province.

3. (KC) During the period 17 Oct 62 to 17 Nov 62, the following rail incidents occurred in the II Zone, MRSS:

- a. (U) VC mined a bridge at BR 896/874 at 2200 hours, 23 Oct 62.
- b. (U) VC removed one pair of rails at ZT 170/088 on 6 Nov 62.
- c. (U) VC mined train Nr 27 at BQ 992/772 at 2210 hours, 6 Nov 62.
- d. (U) VC derailed train Nr 27 at BQ 864/951 at 0440 hours, 12 Nov 62, by removing bolts from fishplates.
- e. (U) VC fired on north bound freight train at 1810 hours, 15 Nov 62.
- f. (U) VC constructed obstacle on tracks at BR 966/285 between 1800 and 1930 hours, 15 Nov 62. Train Nr 2 was stopped by obstacle.
- g. (U) VC removed bolts from four fishplates at BP966/285 between 0800 and 1115 hours, 16 Nov 62.

The total number of incidents during the above period were 7.

4. (KC) on 17 Oct 62, the 23d Special Warfare Avn Detachment (Mohawk) start low level reconnaissance of the railroad between NHA TRANG and the northern boundary of II Corps in connection with routine missions in support of Operation Sea Swallow and operations of the 9th Division. On 30 Oct 62, Mohawks started daily reconnaissance of the railroad from the southern boundary of II Corps to the northern boundary. This railroad and railroad vicinity reconnaissance is normally completed not later than 0815 hours each day. At times, since 30 Oct 62, railroad surveillance at points between NHA TRANG and the northern boundary of II Corps have numbered as high as 1 per day. Mohawks assigned convoy escort duty by the 9th Division also provide surveillance of the railroad as a by product of their primary mission because of speed of aircraft and knowledge of railroads in immediate vicinity of main highways.

These aircraft establish radio communication with each sub-zone headquarters, armored patrol train, Wickham Trolley patrols, escorted trains, and II zone headquarters. By this system all intelligence gained by the Mohawk is immediately reported to the nearest unit of the MRSS capable of taking corrective action.

One Mohawk was hit by ground fire in the vicinity of ZT 28/17 at 0730 hours 13 Nov 62.

The 23d Special Warfare Avn Det provided night air support to the MRSS on 6 Nov 62 and 15 Nov 62. Attention is invited to message text Nr 02753 from field command in which it was requested that substitute means be found to support the train at night during Nov, Dec, and Jan. As previously reported night support from units stationed in II Corps was denied MRSS on 14 Sep 62, on the basis that no flare ship was available in II Corps and that VNAF did not have the personnel or equipment.

5. (KC) Comments:

a. VC attacks on the railroad normally take a sharp-up-swing prior to initiation of government operations in strength and taper off during such operations. This has been generally true in all coastal provinces in II Corps with the exception of PHU YEN province. The area from a point approximately 5 kilometers south of LA HAI station to a point approximately 3 kilometers north of the PHU YEN province boundary has been the center of VC action against the railroad for some months.

b. During the period reported in paragraph Nr 3 there has been a decrease in total number of incidents as well as in total damage inflicted by VC.

c. The only major VC concentrations for train attacks have occurred on 3 Oct and 16 Oct 62. On 3 Oct 62, with air support 15 VC were KIA and on 16 Oct 62 without air support during the fighting one platoon with a strength of 14 soldiers fought off an estimated company of VC.

d. The short response time of II Corps aircraft to request for air support in this zone is believed to have discouraged the VC from any all out effort to capture or loot a train.

e. The effectiveness of daily reconnaissance of the railroad in II zone cannot be established at this time; however, it is believed that results to date warrant continuation of the present program.

f. Recent increase of VC activity in KHAN HOA province against the railroad is believed to be a result of the increase in government operations in other provinces in II Corps.

6. (U) The above information is provided for information and planning.

LEWIS H MCCUTYNE  
Captain, MFC  
Railway Sec Adv, II Zone

DISTRIBUTION:

- 1 - Sr Adv, II Corps, ATTN: G-3 Advisor
- 1 - CO, 23d Special Warfare Avn Det
- 1 - File

**CONFIDENTIAL**

**CONFIDENTIAL**